

ABSTRACT OF THE DISCLOSURE

A process for controlling the amount of insoluble gas trapped by a silicon melt is disclosed. Polycrystalline silicon is charged to a crucible in a crystal pulling apparatus and the apparatus sealed and evacuated. After evacuation, the crystal pulling apparatus is
5 backfilled at least once with a gas having a high solubility in silicon, such as nitrogen. The highly soluble gas fills in cavities between the polycrystalline silicon pieces and between the pieces and the crucible such that when the silicon is melted and bubbles form in the molten silicon the bubbles will solubilize into the melt instead of becoming entrapped in the growing crystal.

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